AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A cold cathode light emitting device emitting light by electrons extracted from a cold cathode, comprising:

a plurality of first electrodes;

a plurality of insulating layers laminated over said plurality of first electrodes;

a plurality of second electrodes provided on said plurality of insulating layers to intersect said plurality of first electrodes with said plurality of insulating layers interposed therebetween, for extracting electrons from said plurality of first electrodes;

a third electrode opposed to said plurality of second electrodes for emitting light upon receipt of said electrons, with a voltage for accelerating said electrons being applied between said third electrode and said plurality of first electrodes; ~~wherein~~

at least one hole provided at each intersection of said plurality of first electrodes and said plurality of second electrodes extending through said plurality of second electrodes and said plurality of insulating layers to reach a surface of said plurality of first electrodes,

said at least one hole having a first diameter at a position where a first of said plurality of insulating layers contacts said plurality of first electrodes and a second diameter at a position of said plurality of second electrodes, where the second diameter is greater than the first diameter; and

a nanofiber-structure layer provided on said plurality of first electrodes in an opening portion corresponding to said first diameter in said at least one hole.

2. (Previously Presented) The cold cathode light emitting device according to claim 1, wherein

said at least one hole is divided into a first section corresponding to a lowermost insulting layer of said plurality of insulating layers being in contact with said plurality of first electrodes, a second section corresponding to the remainder of said plurality of insulating layers located over said lowermost insulating layer, and a third section corresponding to said plurality of second electrodes; and

said first diameter is in said first section, said second diameter is in said third section, and a third diameter is at a lower part of said second section, where the third diameter is greater than the second diameter.

3. (Previously Presented) The cold cathode light emitting device according to claim 1, wherein

said at least one hole is divided into a first section corresponding to a lowermost insulating layer of said plurality of insulating layers being in contact with said plurality of first electrodes, a second section corresponding to the remainder of said plurality of insulating layers located over said lowermost insulating layer, and a third section corresponding to said plurality of second electrodes; and

said first diameter is in said first section, and said second section includes a diameter which decreases to taper toward said plurality of second electrodes.

4. (Previously Presented) The cold cathode light emitting device according to claim 1, wherein:

said at least one hole is divided into a first section corresponding to a lowermost insulating layer of said plurality of insulating layers being in contact with said plurality of first electrodes, a second section corresponding to the remainder of said plurality of insulating layers located over said lowermost insulating layer, and a third section corresponding to said plurality of second electrodes; and

said first diameter is in said first section, and said second section includes a constant diameter substantially equal to said second diameter throughout said second region.

5. (Previously Presented) The cold cathode light emitting device according to claim 1, wherein:

said at least one hole is divided into a first section corresponding to a lowermost insulating layer of said plurality of insulating layers being in contact with said plurality of first electrodes, a second section corresponding to the remainder of said plurality of insulating layers located over said lowermost insulating layer, and a third section corresponding to said plurality of second electrodes; and

said first diameter is in said first section, and said second section includes a diameter a diameter which increases to flare toward said plurality of second electrodes.

6. (Previously Presented) the cold cathode light emitting device according to claim 1, wherein:

an insulating layer of said plurality of insulating layers located over a lowermost insulating layer of said plurality of insulating layers being in contact with said plurality of first electrodes has the same pattern configuration as said plurality of second electrodes.

7. (Original) The cold cathode light emitting device according to claim 1, wherein

a lowermost insulating layer of said plurality of insulating layers being in contact with said plurality of first electrodes is a deposited insulating layer in which insulative films are deposited.

8. (Original) The cold cathode light emitting device according to claim 1, wherein

a lowermost insulating layer of said plurality of insulating layers being in contact with said plurality of first electrodes is formed by firing a paste material made of resin containing glass powder dispersed therein.

9. (Original) The cold cathode light emitting device according to claim 1, wherein

a lowermost insulating layer of said plurality of insulating layers being in contact with said plurality of first electrodes has a thickness t1, and the remainder of said plurality of insulating layers other than said lowermost insulating layer has a thickness t2, where t1 is smaller than t2.

10. (Original) The cold cathodes light emitting device according to claim 1, wherein

said plurality of insulating layers are each formed by firing a paste material made of resin containing glass powder dispersed therein, and

a softening point of said glass powder used for said plurality of insulating layers decreases in the order of getting closer to said plurality of second electrodes.

11. (Original) An image display comprising a display provided with the cold cathode light emitting device as recited in claim 1.

12. (Previously Presented) A method for manufacturing a cold cathode light emitting device, comprising:

providing a first substrate;

forming a plurality of first electrodes on said first substrate;

forming a first insulating layer on said plurality of first electrodes;

patterning the first insulating layer;

forming a second insulating layer on the patterned first insulating layer;

forming a plurality of second electrodes on said second insulating layer such that the plurality of second electrodes intersect said plurality of first electrodes with said first and second insulating layers interposed there between;

patterning the plurality of second electrodes and the second insulating layer, wherein the patterning of the first insulating layer, the second insulating layer and the plurality of second electrodes forms a least one hole at each intersection of said plurality of first electrodes and said plurality of second electrodes extending through said plurality of second electrodes and said first and second insulating layers to a surface of said plurality of first electrodes;

coating a solvent containing a nanofiber-structure material dispersed therein on a surface of said plurality of patterned second electrodes and said first and second insulating layers having said at least one hole formed therein;

drying said solvent to form a dried film; and

spraying polishing particles at a high pressure onto a surface of said dried film containing said nanofiber-structure material to remove said dried film except that portion of the nanofiber-structure formed in the at least one hole corresponding to a opening formed by patterning the first insulating layer.

13. (Previously Presented) The method according to claim 12, wherein

said at least one hole provided at each intersection has a first diameter at a position where a first of said plurality of insulating layers contacts said plurality of first electrodes and a second diameter at a position of said plurality of second electrodes, where the second diameter is greater than the first diameter; and

said polishing particles have a particle diameter, such that the first diameter is less than the particle diameter which is less than the second diameter.

14. (Previously Presented) The ~~A~~ method according to claim 12, further comprising:

forming a sacrificial layer which covers said plurality of second electrodes except a portion corresponding to said at least one hole;

coating a solvent containing a nanofiber-structure material dispersed therein on an inner surface of said at least one hole and on a surface of said sacrificial layer, and drying said solvent to form a dried film;

spraying polishing particles at a high pressure onto a surface of said dried film containing said nanofiber-structure material to remove said dried film except that portion of the nanofiber-structure corresponding to a opening formed by patterning the first insulating layer; and

removing said sacrificial layer.

15. (Previously Presented) The method according to claim 14, wherein

said at least one hole provided at each intersection has a first diameter at a position where a first of said plurality of insulating layers contacts said plurality of first electrodes and a second diameter at a position of said plurality of second electrodes, where the second diameter is greater than the first diameter; and

said polishing particles have a particle diameter, such that the first diameter is less than the particle diameter which is less than the second diameter.

16. (Previously Presented) The method according to claim 15, wherein said sacrificial layer is also used as a mask for patterning the plurality of second electrodes and the second insulating layer to form said at least one hole in said plurality of second electrodes and said second insulating layer.

17. (Previously Presented) The ~~A~~ method according to claim 12, further comprising:

providing a first substrate;

forming a plurality of first electrodes on said first substrate;

forming a first insulating layer on said plurality of first electrodes;

patterning the first insulating layer to form a plurality of open portions;

coating a solvent containing a nanofiber-structure material dispersed therein on an inner surface of said plurality of open portions and a surface of said first insulating layer, and drying said solvent to form a dried film;

planarizing said dried film containing said nanofiber-structure material to remove said dried film except a part thereof present in said plurality of open portions;

forming a second insulating layer on the patterned first insulating layer;

forming a plurality of second electrodes on said second insulating layer such that the plurality of second electrodes intersect said plurality of first electrodes with said first and second insulating layers interposed there between;

patterning the plurality of second electrodes and the second insulating layer, wherein the patterning of the first insulating layer, the second insulating layer, and the plurality of second electrodes forms a least one hole at each intersection of said plurality of first electrodes and said plurality of second electrodes extending through said plurality of second electrodes and said second insulating layers to said plurality of opening portions in said first insulating layer.

18. (Previously Presented) A cold cathode light emitting device emitting light by electrons extracted from a cold cathode, comprising:

a plurality of first electrodes;

a plurality of insulating layers laminated in said plurality of first electrodes;

a plurality of second electrodes provided on said plurality of insulating layers to intersect said plurality of first electrodes with said plurality of insulating layers interposed therebetween, for extracting electrons from said plurality of first electrodes; and

a third electrode opposed to said plurality of second electrodes for emitting light upon receipt of said electrons, with a voltage for accelerating said electrons being applied between said third electrode and said plurality of first electrodes, wherein

at least one hole is provided at intersections of said plurality of first electrodes and said plurality of second electrodes to extend through said plurality of second electrodes and said plurality of insulating layers to reach a surface of said plurality of first electrodes,

said at least one hole has a first diameter d1 at a position where said plurality of insulating layers are in contact with said plurality of first electrodes and a second diameter d2 at a position where said plurality of insulating layers are in contact with said plurality of second electrodes, where d2 is greater than d1,

a nanofiber-structure layer is provided on said plurality of first electrodes in an opening portion having said first diameter d1 in said at least one hole,

said plurality of insulating layers are each formed by firing a paste material made of resin containing glass powder dispersed therein, and

a softening point of said glass powder used for said plurality of insulating layers decreases in the order of getting closer to said plurality of second electrodes.